

LOCAL HEALTH DEPARTMENT DISEASE INVESTIGATION STEPS

NC REPORTABLE DISEASE/CONDITION	NC DISEASE CODE	INFECTIOUS AGENT(S)
SALMONELLOSIS	38	Salmonella species, non-Typhi
PREPARING FOR INVESTIGATION		
KNOW THE DISEASE/CONDITION	<p>Read about Salmonella in the CD Manual.</p> <ul style="list-style-type: none">• See the case definition for Salmonella in the CD Manual.• Study APHA Control of Communicable Diseases Manual, 20th ed.• Refer to CDC MMWR: Multistate Outbreak of Human Salmonella Infections Associated with Exposure to Turtles – United States, 2007-2008. January 25, 2008; 57(03); pp 69 – 72. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5703a3.htm• Refer to Red Book, 2015 Report of the Committee on Infectious Diseases, 30th edition. <p>Paratyphoid Fever</p> <ul style="list-style-type: none">• Paratyphi A, B, or C is to be reported as Salmonella (38) and control measures for Acute Typhoid Fever (44) are to be used.<ul style="list-style-type: none">◦ All Paratyphi B samples that have a lab result listed as “var L + tartrate +” are associated with routine gastrointestinal disease. These are to be reported and investigated as “Salmonella (38)”.• Print and review reporting forms: <i>Part 1: Confidential Disease Report (DHHS 2124)</i> <i>Part 2: Salmonella (DHHS/EPI #38)</i>	
CONDUCTING INVESTIGATION		
COLLECT CLINICAL INFORMATION	<ul style="list-style-type: none">• Obtain and review clinical documentation/medical records.• Review surveillance for completeness. If surveillance not complete contact medical provider.	
REVIEW LABORATORY INFORMATION	<ul style="list-style-type: none">• Evaluate laboratory result to determine if requirements for case definition are met.• Ensure reporting laboratory has forwarded the specimen to the SLPH for serotyping.	
APPLY THE CASE DEFINITION	<ul style="list-style-type: none">• Use the case definition to determine if the information you have meets the case definition criteria.	

IMPLEMENTING CONTROL MEASURES	
ATTEMPT TO IDENTIFY SOURCE OF EXPOSURE	<ul style="list-style-type: none"> • Interview the patient and complete the entire Part 2 Form. • If source of exposure is suspected to be restaurant related, involve environmental health specialist. • Ask about contact to pets, reptiles and rodents.
IMPLEMENT CONTROL MEASURES TO PREVENT DISEASE AND ADDITIONAL EXPOSURES	<p>Food Employees</p> <ul style="list-style-type: none"> • Exclusion and readmission of symptomatic and asymptomatic lab positive food employees from work should be determined in consultation with your Environmental Health Specialist and at the discretion of the Local Health Director, based on criteria set in the North Carolina Food Code Manual and/or recommendations provided in the latest version of the Control of Communicable Diseases Manual (American Public Health Association). <p>Healthcare workers</p> <ul style="list-style-type: none"> • Exclude lab positive individuals who perform direct patient care. <ul style="list-style-type: none"> ◦ Readmission requires two consecutive negative stool cultures collected not less than 24 hours apart and 48 hours after last dose of antimicrobial agents, if given. <p>Child care centers</p> <ul style="list-style-type: none"> • Outbreaks of Salmonella illness in child care centers are rare and there are specific strategies that are recommended to control infection in child care centers which include strict adherence to hygiene practices, including meticulous hand hygiene and by limiting exposure to certain animals. Higher risk animals include reptiles, amphibians, and poultry. These animals are not recommended in schools, child care centers, hospitals or long term care facilities. • When non-typhoidal Salmonella serovars are identified in a symptomatic (i.e. enterocolitis) child care attendee or staff member the following recommendations apply. <ul style="list-style-type: none"> ◦ Children and staff members should be excluded and can return to child care facilities once the diarrhea has resolved. ◦ Children or staff members do not require negative culture results from stool samples to return.

	<ul style="list-style-type: none"> ○ If children or staff members are positive for non-typhoidal Salmonella and demonstrate poor hand hygiene then return to any childcare facility will require two negative stools to return ○ Stool cultures are not required for asymptomatic contacts. <p>All cases</p> <ul style="list-style-type: none"> • Except for the specific criteria listed above there are no exclusion and readmission requirements for other occupations. • Additional control measures may be implemented if current control measures are not shown to be effective during an outbreak.
REPORTING INVESTIGATION	
REPORT TO THE NC COMMUNICABLE DISEASE BRANCH (CD)	<ul style="list-style-type: none"> • Enter Part 1 and Part 2 Communicable Disease Reports into NC EDSS as a new event, or update the existing event if already entered. • Assign event to State Disease Registrar when case investigation complete. • Do an "Event_Print" in NC EDSS after assigning to the state. Keep for one year along with any additional notes. Maintain as a surveillance file, not a medical record.
CASE FINDING	<ul style="list-style-type: none"> • During the course of the investigation, look for symptoms of the disease in other exposed individuals (other infants in daycare or household contacts, for example). • Refer symptomatic individuals to healthcare provider for evaluation. • If two or more cases are found that are epidemiologically linked, report as an outbreak of Salmonellosis. • If indicated, submit Outbreak Summary Report within 30 days from close of outbreak.
SPECIAL CONSIDERATIONS	

S. TYPHI	<ul style="list-style-type: none"> Salmonella typhimurium is not salmonella typhi (S. typhi). S. typhi cases are reported as Typhoid Fever, acute (#44) or Typhoid, carriage (#144) depending on whether case is symptomatic or not. Salmonella paratyphi may become reportable as a distinct condition in the future, but should be reported as Salmonella (38) until further notice.
PARATYPHOID FEVER	<ul style="list-style-type: none"> In case of paratyphoid fever (Salmonella paratyphi A, B, or C) report as Salmonella (38), but use control measures for Acute Typhoid fever (44).
FOODBORNE TRANSMISSION	<ul style="list-style-type: none"> Consider source to be a wide variety of foods (meats, poultry, dairy, eggs, raw fruits and vegetables, contaminated water).
REPTILES, PETS, RODENTS	<ul style="list-style-type: none"> Reptiles (iguanas, turtles, snakes), pets (dogs, cats and chicks) and rodents (hamsters, mice and rats) can all be potential sources of salmonella. In recent years, rodents have been implicated in an outbreak of multi-drug resistant salmonella.
SALMONELLA SITES	<ul style="list-style-type: none"> Salmonella infections (symptomatic and asymptomatic) in sites other than the GI tract are reportable as long as they are lab confirmed.
ANTIBIOTIC USE	<ul style="list-style-type: none"> Antibiotic use does not shorten the duration of the illness and may lead to resistant strains. They are recommended for infants less than 2 months of age, the elderly and debilitated.
RISK COMMUNICATION	<ul style="list-style-type: none"> Outbreaks of this disease in child care or schools, while uncommon, will generate concern among parents, health professionals, and the media. Be prepared to answer questions and offer preventative measures. Consider using risk communication tools conservatively if this is a low profile, naturally-occurring case. Outbreaks may need NC HAN alerts, EPI-X reports, MD alerts, and possibly a press release.
	<ul style="list-style-type: none"> NC DHHS Public Information Office (919) 733-9190 is available to assist local health departments as needed.